

III. FACILITY DESCRIPTION

General Facility Description

The NAVMEDCOM NATCAPREG is a U.S. Navy Headquarters facility located on 243 acres in Bethesda, Maryland. The facility provides and administers the overall provision of quality health care services throughout the region, serves as a national research facility, and functions as a teaching institution. The facility also serves as a base for a number of other commands including:

NHBETH	-	Naval Hospital Bethesda
AFFRI	-	Armed Forces Radiobiology Research Institute
NNDC	-	National Naval Dental Center
NHSETC	-	Naval Health Sciences Education and Training Command
NMDSC	-	Naval Medical Data Services Center
NMRDC	-	Naval Medical Research and Development Command
NMRI	-	Naval Medical Research Institute
NSHS	-	Naval School of Health Services
USUHS	-	Uniformed Services University of the Health Sciences

The command contains over 85 buildings where over 2,900 military and 2,300 civilian personnel are assigned. The command houses a hospital, numerous research buildings, a dental and medical school, and many storage areas.

History of Ownership and Land Use

On February 5, 1942, the Naval Medical Command, National Capital Region (NMCNCR) was commissioned. It was dedicated by President Roosevelt on August 31, 1942. In 1973 the Naval Medical Command,

National Capital Region and the Naval Hospital were combined into one command, the National Naval Medical Center and in 1982 it became the Naval Medical Command, National Capital Region (NAVMEDCOM NATCAPREG).

The numerous name changes have provided the command with several alias names; NMCNCR, Naval Hospital, Bethesda, Bethesda Naval Hospital, National Naval Medical Center, and the current NAVMEDCOM NATCAPREG. In addition, the Naval Hospital is listed on the National Register of Historic Places.

Regulatory History

The command submitted a Resource Conservation and Recovery Act (RCRA) Part A permit application to the U.S. Environmental Protection Agency (EPA) in July 1985 for a storage facility (Reference 1). The NAVMEDCOM NATCAPREG submitted a State of Maryland Controlled Hazardous Substance Permit application on July 29, 1985 for Building 256 to store hazardous waste. The RCRA Part B application was submitted in October 1985. The Maryland Department of the Environment issued CHS Permit No. A-221 on December 24, 1987 and is effective until December 23, 1990 (References 2 and 16).

Other environmental permits held by NAVMEDCOM NATCAPREG include the following:

- o NPDES Permit No. MD0025670 issued by the Maryland Department on natural Resources. The file material does not include effective dates. (Reference 14).
- o Infectious Waste Incinerator permit No. 0-01124-00129. No other information is available from the file material. (Reference No.1)
- o Boilers are permitted under State of Maryland Air Pollution Control authorities. Permit Nos. 0-01124-01233, 0-01124-01193, and 0-01124-01194. No other information is available from the file material. (Reference No. 1)
- o Three permits for radioactive uses have been granted by the Nuclear Regulatory Commission. Permit No. 19-0498A-21NP, a general permit form isotopes with atomic numbers from 1 to 83. Permit NO. 19-048A-32NP for large quantities of Cobalt-60 which is used for radiation therapy. Permit No. 19-048A-83NP for plutonium. (Reference 1).

Operations and Process Description

The NAVMEDCOM NATCAPREG is headquarters to nine different commands. Each command utilizes different operational procedures. In general, the command directs the provisions of comprehensive and quality health care services for the region, and acts as the central authority for cooperation with military and civilian authorities in matters pertaining to public health, disasters, and other emergencies (Reference 1).

The commands include an active hospital, numerous research buildings, a medical and dental school, and a data services center. At least one of the research buildings is involved in

managing radioactive waste. No other specific information on operations at the facility are available from the file material. Additional information will be obtained during the VSI.

Waste and Waste Management Practices

NAVMEDCOM NATCAPREG generates a wide variety of solid waste in the course of its experimental, educational, and operational activities. Most of the hazardous waste is generated in relatively small amounts of outdated solvents, reagents, or other chemicals that are still in their original containers. The types of hazardous wastes generated in the past appear on Table III-1.

Once wastes are generated, they are reportedly stored in the Building 256 Storage Facility (SWMU No.1) until a significant amount has accumulated for transport to an off-site facility. The wastes are reportedly characterized to determine if the wastes are hazardous, to establish compatibility groupings in preventing mixing incompatible wastes, to identify hazard classes defined by the Department of Transportation (DOT), and to provide identification to transporters and disposal facility operators. Wastes which cannot be identified are analyzed for the hazardous properties of ignitability, reactivity, corrosivity, or toxicity (Reference 1). Most hazardous waste designated for off-site disposal is collected and disposal of in its original labeled containers. Each waste is reportedly characterized by generating activity on the manifests.

Table III-1
HAZARDOUS SUBSTANCES

Section: C
Revision: 0
Date: 30 July 1985

GENERATED AT NAVMEDCOM NATCAPREG

Waste Type or Description	EPA Hazardous Waste Number	Hazard Characteristics	Basis for Hazard Designation
Acetone	U002	Flammable	Flash point = 15°F
Acetic Acid	D002	Corrosive	pH < 2.0
Ammonium Hydroxide	D002	Corrosive	pH > 12.5
Acetonitrile	U001	Flammable	Flash point = 42°F
Arsenic Acid	D004	EP toxic	Contains > 5.0 mg/L arsenic
Butanol	D001	Flammable	Flash point = 95°F
1-Butyl Benzene	D001	Combustible	Flash point = 160°F
Benzidine	U021	Toxic	Known carcinogen
Benzaldehyde	D001	Toxic, combustible	Flash point = 145°F
Boric Acid	D002	Corrosive	pH < 2.0
Cyclohexane	U056	Toxic, flammable	Flash point = 1°F; toxic by ingestion & skin
Carbon Tetrachloride	F001	Toxic	Toxic, narcotic
Cyanogen Chloride Sol'n	P033	Toxic	Highly toxic by inhalation and ingestion
Dichloroethylene	F001	Toxic, flammable	Toxic, narcotic, flash point = 39°F
Dimethyl formamide	D001	Flammable	Flash point = 136°F
Ethyl acetate	U112	Flammable, toxic	Flash point = 24°F
Ethanolamine	D002	Toxic, corrosive	Strong base
Ethylene dichloride	F002	Toxic, flammable	Flash point = 56°F, may be carcinogenic
Ethanol	D001	Flammable	Flash point = 55°F
Formal	D001	Toxic, flammable	Flash point = 140°F
Hydrazine	U133	Highly toxic	Known carcinogen
Hydrogen Peroxide	D003	Reactive	Oxidizer
Hydrochloric Acid	D002	Corrosive	pH < 2.0
Hydrofluoric Acid	U134	Corrosive	pH < 2.0
Hydrogen Cyanide	D003	Highly toxic	Poison
Isoamyl Acetate	D001	Flammable	Flash point = 80°F
Isopropyl Alcohol	D001	Flammable	Flash point = 53°F
Lactic Acid	D002	Corrosive	pH < 2.0
2-methyl-2-butanol	D001	Flammable	Flash point = 115°F
Methyl methacrylate	D001	Flammable	Flash point = 50°F
Methyl Alcohol	U154	Flammable	Flash point = 54°F
Nitroamine	D001	Combustible, toxic	
Nitric Acid	D002	Corrosive	pH < 2.0
Petroleum Ether	D001	Flammable	Flash point < 140°F
Pyridine	U196	Flammable, toxic	Toxic by ingestion & inhalation
Cellulose Nitrate	D001	Flammable	Flash point = 55°F
3-Pentanone	D001	Flammable	Flash point = 55°F
Propionic Acid	D002	Corrosive	pH < 2.0
1-Propanol	D001	Flammable	Flash point = 77°F
Phosphoric Acid	D002	Corrosive	pH < 2.0
Potassium Thiocyanate	F007	Toxic	Toxic by ingestion
Potassium Permanganate	D003	Reactive	Powerful oxidizing agent
Phosphotungstic Acid	D002	Corrosive	pH < 2.0
Perchloric Acid	D002	Corrosive	pH < 2.0
Picric Acid	D003	Reactive, corrosive	Explosive (shock sensitive)
Paraformaldehyde	U122	Combustible, toxic	Toxic by ingestion
Potassium Dichromate	D003	Reactive, toxic	Strong oxidizing agent
Sulfuric Acid	D002	Corrosive	pH < 2.0

Table III-1 (Cont'd)
HAZARDOUS WASTES
GENERATED AT NAVMEDCOM NATCAPREG

Section: C
Revision: 0
Date: 30 July 1985

Table C-2
(continued)

Waste Type or Description	EPA Hazardous Waste Number	Hazard Characteristics	Basis for Hazard Designation
Sodium Hydroxide	D002	Corrosive	pH >12.5
Sodium Cyanide	P007	Toxic	Highly toxic
Soda Lime	D002	Toxic, corrosive	Strong irritant to tis
Chromium wastes	D007	EP toxic	Contains >5.0 mg/l Cr
Mercury wastes	D009	EP toxic	Contains >0.2 mg/l Hg

¹Excerpted from 1981 through 1984 annual reports.

Once a waste is identified as hazardous, it is assigned one of ten compatibility groups. These ten compatibility groups are:

- o Alkalines
- o Reactive metals and their compounds
- o Alcohols and aqueous streams
- o Halogenated, nitrated hydrocarbons
- o Cyanides and sulfides
- o Peroxides and oxidizers
- o Waste acids
- o Organic Acids
- o Flammable wastes
- o PCBs

NAVMEDCOM NATCAPREG is not presently capable of in-house analytical testing of these wastes. However, Chesapeake Division, Naval Facilities Engineering Command (CHESNAVFACENGCOM), had retained a commercial laboratory to perform the analysis when necessary. It cannot be determined from the file material how long the process takes to determine the constituents of the waste, nor does it address what is done with this waste in the interim. Further information will be requested during the VSI.

Table III-2 is a list of SWMUs located at NAVMEDCOM NATCAPREG. Not enough information was available in the file materials to construct a SWMU location map or a waste flow diagram. This will be one of the main objectives of the VSI.

Table III-2

Preliminary List of SWMUS at NAVMEDCOM NATCAPREG
Solid Waste Management Units Status*

1.	Building 256 Storage Facility	Active
2.	Building 224 Storage Area	Active
3.	Carpenter Shop Accumulation Area	Active
4.	Navy Medical Research Institute (Building 21) Storage Area	Active
5.	Building 21 Catch Basin	NA
6.	University Health Services Temporary Storage Area	Active
7.	Naval Hospital Waste Xylene Storage Area	Active
8.	Armed Forces Radiobiology Research Institute (AFFRI) PCB Storage Area	NA
9.	USUHS Teaching Hospital Temporary Storage Area	Active
10.	Paint Shop Loading Dock (Building 15)	Active
11.	Naval Hospital Xylene Distillation Unit	Active
12.	Naval Medical Research Building (Building 17 Room 14) Satellite Accumulation Area	Active
13.	Pesticide Shop (Building 149) Waste Storage Area	Active
14.	Hazardous Waste Storage Building 226	Active
15.	Base Exchange Gas Tanks	NA
16.	Former Leaking 1500 Gallon Gas Tank	Inactive
17.	Dental Lab Satellite Accumulation Area	Active
18.	General Medical and Surgical Hospital Satellite Accumulation Area	Active
19.	Tank No. 196	Active
20.	Military Gas Station	Active
21.	Facility Fire Department Leaking Gasoline Tank	Inactive
22.	Building 53 Underground Storage Tank	NA
23.	Gasoline Recovery System	NA
24.	Radioactive Waste Underground Storage Tanks	NA
25.	Former Laboratory Waste Disposal Area	Inactive
26.	NMRI Xylene Disposal Area	Inactive
27.	Asbestos Burial Area	Inactive
28.	Medical Waste Dumpster	NA
29.	Metal Storage Yard	Inactive
30.	Sewage Treatment System	NA
31.	Waste Oil Tank No. 273	NA
32.	Waste Oil Tank No. 295	NA
33.	USUHS Waste Storage Warehouse	Active
34.	USUHS Mixed Waste Storage Area	NA

* Active - indicates the units continue to actively manage wastes.

Inactive - indicates the units no longer actively manage wastes; however, wastes from previous activities may still be present in the unit.

NA - No Information Available

History of Releases

NAVMEDCOM NATCAPREG has had several documented releases throughout its history. Many of the releases involve leaking underground storage tanks. Releases documented in the file materials are listed below (References 3-13, 17-18):

- o 12/22/83 - A spill of unknown quantity was discovered when combustion was found around the sewer lines at the Military Gas Station.
- o 12/09/83 - An underground storage tank was found leaking at the Naval Medical Center Fire Department. An estimated 240 gallons had leaked and entered the sewer lines.
- o 3/23/88 - At least 10 lbs of PCB contaminated used oil spilled from a 55 gallon drum which had been stored outside on a concrete sidewalk behind Building 42. The spill area, originally two to three square feet, became increasingly large with water runoff. The site was cleaned and soil was to excavated.
- o 6/27/88 - Leak found in underground storage tank originating from the fill pipe of a 20 year old system. The leak resulted in a release of approximately 1,500 gallons of gasoline.
- o 8/24/88 - Leak found in underground storage tank fill pipe. The oil spill resulted in the release of 1,500 gallons.
- o 8/25/88 - Twenty year old underground tank system failed tightness test. The tank stored #2 Fuel Oil.
- o 6/23/88 - Twenty gallons of PCBs spilled on soil/pavement due to a mechanical failure. The spill was reportedly cleaned up.
- o 4/14/89 - No. 2 Fuel Oil spill noticed from an underground storage tank fill pipe. The spill was located adjacent to Building 55 and released less than 2 gallons.

- o 6/08/89 - Twenty gallons of sodium metasilicate penhydride, NaPo, Glycol Ether and Tetra potassium phosphate solution were spilled behind NMRI, Building 21. Nineteen gallons were contained in the catch basin and the contaminated soil was removed.
- o 3/07/90 - Five gallon spill of hydraulic oil to outfall 004 and the tributary of Stoney Creek. Oil booms were put in place but reportedly no formal incident report was written.
- o 8/30/89 - No. 2 fuel oil from a new fiberglass double wall tank spilled approximately 0.1 gallons per hour for an unknown period of time.
- o 3/06/87 - Ten gallons of gasoline spilled onto the pavement when the trucks filling hose to Tank No. 196 came loose.

IV. DESCRIPTION OF SOLID WASTE MANAGEMENT UNITS

1. Unit Name: Building 256 Storage Facility
- Unit Description: Building 256 is used to store hazardous waste. It is RCRA regulated. The State of Maryland issued a Controlled Hazardous Substances Permit in December 1987 for this unit.
- Building 256 reportedly has a maximum storage capacity of 12,390 gallons(2,430 for container storage, 760 for drum storage, and 9,200 for PCB storage).
- Date of Start-up: The building has been storing PCB's for an unknown period of time. It has been storing chemical hazardous substances since being permitted in December 1987.
- Date of Closure: The unit is still active.
- Release Controls: The unit is on a concrete base, diked, partitioned, and roofed. Wastes are grouped by compatibility and separated by storage bays.
- Wastes Managed: The unit can manage any wastes listed list of wastes stored are included in Table IV-2.
- History of Releases: There are no known releases associated with this unit.
- Information Needs:
1. Provide additional information on the unit description, including dimensions, and what materials were used in the construction of the unit.
 2. Describe how long the wastes are stored.
 3. Describe how these wastes are ultimately disposed.
 4. Provide a list of all wastes stored at this unit in the past.
 5. Describe any other release controls associated with this unit.

6. Provide any information on unit releases or spills.
7. Provide information on where these wastes are originating from. How are they transported to this storage unit?
8. When is the anticipated closure date for the unit?

References:

1, 2, 11, 16, 17

2. Unit Name: Building 224 Storage Area

Unit Description: This unit of unknown dimensions and construction was used for temporary storage of hazardous waste before being shipped offsite. It served as the principal hazardous waste storage unit for the facility prior to the construction of the Building 256 Storage Facility (SWMU No. 1)

Date of Start-up: The start-up date of this unit is unknown.

Date of Closure: The unit is still active.

Release Controls: There are no known release controls associated with this unit.

Wastes Managed: Any of the wastes listed in Table 3 could be managed by this unit.

History of Releases: There have been no known releases associated with this unit.

Information Needs:

1. Provide a unit description, including location, and size.
2. Provide a start-up date.
3. Identify any release controls associated with this unit.
4. Provide any history of releases.
5. Identify where the wastes are originating.

References: 1, 18, 20

3. Unit Name: Carpenter Shop Accumulation Area

Unit Description: This unit consists of a 55 gallon drum in the Carpenter Shop. There is no other information in the file material describing this unit.

Date of Start-up: The start-up date was not found in the file material.

Date of Closure: This unit is still active.

Release Controls: There are no known release controls associated with this unit.

Wastes Managed: This unit is used to store waste paint solvent.

History of Releases: There have been no known releases from this unit.

Information Needs:

1. Provide a unit description, including location, and size.
2. Provide a start-up date.
3. Identify any release controls associated with this unit.
4. Provide a list of all wastes managed.
5. Provide any history of releases.
6. Identify where the wastes are originating and are being transferred to.

References: 17

4. Unit Name: Navy Medical Research Institute (Building 21) Storage Area

Unit Description: There was no unit description available from the file material.

Date of Start-up: The start-up date was not available from the file material.

Date of Closure: This unit is still active.

Release Controls: There are no known release controls associated with this unit.

Wastes Managed: This unit is being used to store hazardous waste. No information was available on specific wastes managed by this unit.

History of Releases: The only known release occurred in June 1989. Twenty gallons of sodium metasilicate pentahydrate, glycol ether, and tetra potassium phosphate solution were spilled behind this Building 21.

Information Needs:

1. Provide a unit description, including location and size of unit.
2. Provide a start-up date and anticipated closure date.
3. Identify any release controls associated with this unit.
4. Provide a list of the wastes managed by this unit.
5. Identify any information on releases.
6. Identify how wastes are transported to this unit.

References: 17

5. Unit Name: Building 21 Catch Basin

Unit Description: This unit is reportedly used to catch runoff from rainfall and spills. There is no other information available from the file material.

Date of Start-up: The start-up date cannot be determined from the file material.

Date of Closure: It cannot be determined if this unit is active or closed from the file material.

Release Controls: There are no known release controls for this unit.

Wastes Managed: This unit managed 19 gallons of sodium metasilicate pentahydrate, glycol ether, and tetra potassium phosphate solution spilled from the NMRI Storage Area (SWMU No. 4) in 1989. No other information was available from the file material.

History of Releases: There are no known releases from this unit from the file material.

Information Needs:

1. Provide additional information on the unit description, including location, size, and construction methods and materials.
2. Identify a start-up and closure/anticipated closure date.
3. Identify any release controls.
4. Identify any history of releases from this unit.
5. Identify a list of wastes managed by this unit.
6. Identify what happens to the wastes accumulated by this unit.

References: 17

6. Unit Name: University Health Services Temporary
Storage Area

Unit Description: This is a temporary hazardous waste storage facility. No other information was available from the file material.

Date of Start-up: The start-up date could not be determined from the file material.

Date of Closure: This unit is still active.

Release Controls: There are no known release controls associated with this unit.

Wastes Managed: This unit stores hazardous waste. No information on specific wastes managed by this unit was available from the file material.

History of Releases: There are no known releases from this unit.

Information Needs:

1. Provide a unit description, including location and size of the unit.
2. Identity a start-up and anticipated closure date.
3. Identify any release controls related to this unit.
4. Provide a list of the hazardous wastes managed by this unit.
5. Provide any information on releases by this unit.

References: 17

7. Unit Name: Naval Hospital Waste Xylene Storage Area

Unit Description: This unit of unknown dimensions, located in room 259 of the naval hospital, is used for temporary storage of waste xylene and alcohols generated by the Xylene Distillation Unit (SWMU No. 11). Wastes are transferred from here to the Building 256 Storage Facility (SWMU No. 1).

Date of Start-up: The start-up date was not available from the file material.

Date of Closure: This unit is still active.

Release Controls: The unit is located indoors. There are no other known release controls associated with the unit.

Wastes Managed: This unit manages waste xylene and alcohols.

History of Releases: There are no known releases from this unit.

Information Needs:

1. Provide an detailed unit description including, location, size, and construction materials.
2. Provide a start-up date and anticipated closure date.
3. Identify any release controls associated with this unit.
4. Identify any history of releases form this unit.
5. Identify any waste management practices.

References: 18

8. Unit Name: Armed Forces Radiobiology Research
Institute (AFFRI) PCB Storage Area

Unit Description: This unit is a storage area of unknown
dimensions within Building 42.

Date of Start-up: The start-up date of this unit is unknown.

Date of Closure: It was not able to be determined from the
file materials whether the unit is still
active. The unit is located indoors.

Release Controls: There are no known release controls
associated with this unit.

Wastes Managed: It is known that oils containing PCBs were
managed by this unit. It is unknown
whether any other wastes were managed by
this unit.

History of Releases: No releases could be identified from the
file material.

Information Needs:

1. Describe the location, configuration,
and materials of construction of this
unit.
2. Describe the operating status, the
start-up date, and the date of
deactivation of this unit, as
appropriate.
3. Describe all wastes managed by this
unit.
4. Provide information on any other
releases that have occurred from this
unit.
5. Provide all sampling results and
describe any cleanup activities
results from the March 1988 spill.

References: 3, 17, 18

9. Unit Name: USUHS Teaching Hospital Temporary Storage Area

Unit Description: This unit is a room of unknown dimensions in the USUHS Teaching Hospital used for temporary waste storage. There was no other information on the unit description available from the file material.

Date of Start-up: There was no start-up date identified in the file material.

Date of Closure: This unit is still active.

Release Controls: The unit is located indoors. There are no other known release controls associated with the unit.

Wastes Managed: The unit manages the wastes generated from the teaching hospital. There is no other information available on the waste types managed by this unit.

History of Releases: There are no known releases associated with this unit.

Information Needs:

1. Provide a unit description, including location, size and construction methods and materials.
2. Provide a start-up and anticipated closure date for this unit.
3. Identify any release controls associated with this unit.
4. Provide information on any history of releases from this unit.
5. Identify specific waste types managed by this unit.
6. Identify how the wastes are managed/accumulated by this unit.
7. Provide information on what happens to the wastes managed by this unit.

References: 18

10. Unit Name: Paint Shop Loading Dock (Building 15)

Unit Description: This unit is a loading dock of unknown size or construction located by the paint shop. No other information was available from the file material.

Date of Start-up: The start-up date cannot be determined from the file material.

Date of Closure: This unit is still active.

Release Controls: The unit was scheduled to have a secondary containment berm constructed in February 1989. It cannot be determined if this berm was constructed from the file material.

Wastes Managed: This unit has managed waste liquid paint thinner and varsol. Information on other wastes managed by this unit was not available from the file material.

History of Releases: There is no known history of releases from this unit.

Information Needs:

1. Provide a unit description, including location, size/dimensions, and construction methods and materials.
2. Provide a start-up and anticipated closure date.
3. Identify any other wastes managed by this unit.
4. Identify any release controls associated with this unit.
5. Provide any information on releases by this unit.
6. Provide any information on waste management procedures, including where wastes are originating, and what happens to them after storage.

References: 18

11. Unit Name: Naval Hospital Xylene Distillation Unit

Unit Description: This unit is a distillation column of unknown dimensions locate in Room 259 of the Naval Hospital that is used to distill and reclaim xylene for use in the hospital. It generates approximately 5 liters of useable xylene daily, along with waste xylene sludge and alcohols.

Date of Start-up: The start-up date was not available from the file material.

Date of Closure: This unit is still active.

Release Controls: The unit is located indoors. There are no other known release controls associated with the unit.

Wastes Managed: This unit generates waste xylene and alcohols.

History of Releases: There are no known releases from this unit.

Information Needs:

1. Provide an detailed unit description including, location, size, and construction materials.
2. Provide a start-up date and anticipated closure date.
3. Identify any release controls associated with this unit.
4. Identify any history of releases form this unit.
5. Identify any waste management practices.

References: 18

12. Unit Name: Naval Medical Research Building (Building 17, Room 14) Satellite Accumulation Area

Unit Description: This unit of unknown dimensions is a room in the Naval Medical Research Building used for packing wastes to be transported to the Building 256 Storage Facility (SWMU No. 1). Small quantities of wastes reportedly remain in the packing trays after the wastes are packaged. No other information on this unit was available from the file material.

Date of Start-up: The start-up date was not available from the file material.

Date of Closure: This unit is still active.

Release Controls: The unit is located indoors. There are no known release controls associated with the unit.

Wastes Managed: It cannot be determined what wastes are managed by this unit from the file material.

History of Releases: There are no known releases associated with this unit.

Information Needs:

1. Provide a detailed unit description including, size, location, and construction methods and materials.
2. Identify a start-up and anticipated closure date.
3. Identify any release controls associated with this unit.
4. Identify any history of releases.
5. Provide a list of all wastes managed by this unit.
6. Identify the waste management practices associated with this unit, where the wastes are originating, and how the wastes are transported to and from this unit.

References: 18

13. Unit Name: Pesticide Shop Waste Storage Area

Unit Description: This area of unknown dimensions with the Pesticide Shop (Building 149) is used as a storage area for waste pesticides before being transferred to the Building 256 Storage Facility (SWMU No. 1).

Date of Start-up: The start-up date could not be determined from the file material.

Date of Closure: This unit is still active.

Release Controls: The unit is located indoors. There are no other known release controls associated with the unit.

Wastes Managed: This unit manages unused pesticides which have exceeded their shelf life.

History of Releases: There are no known releases from this unit.

Information Needs:

1. Provide a detailed unit description including location, size, and construction methods and materials.
2. Identify the start-up date and anticipated closure date.
3. Identify any release controls associated with this unit.
4. Identify any releases from this unit.
5. Provide waste management information, including how the wastes are transported to and from the unit.

References: 18

14. Unit Name: Hazardous Waste Storage Building 226

Unit Description: This unit is of unknown dimension, and construction, used reportedly to temporarily store hazardous wastes. It was reported that three drums of waste paint thinner were being stored at this unit.

Date of Start-up: The start-up date cannot be determined from the file material.

Date of Closure: It cannot be determined if this unit is still active from the file material.

Release Controls: There are no known release controls associated with this unit.

Wastes Managed: The unit has reportedly managed waste paint thinner. Information on other wastes managed by this unit was not available from the file material.

History of Releases: There are no known releases from this unit.

Information Needs:

1. Provide a detailed unit description, including location, dimensions, and construction methods and materials.
2. Identify a start-up and closure/anticipated closure date.
3. Provide a list of the controlled hazardous substances managed by this unit.
4. Provide details on any release controls associated with this unit.
5. Identify any releases by this unit.
6. Identify the waste management practices utilized by this unit. Identify how the wastes are transported to and from the unit.

References: 18

15. Unit Name: Base Exchange Gas Tanks

Unit Description: This unit consists of three underground gasoline storage tanks of unknown capacity and construction located at the Base Exchange Gas Station. The station provides gasoline to facility personnel for their personal vehicles. It was discovered in 1983 that one of the tanks was reportedly releasing at the rate of four gallons per hour. The Navy installed the Gasoline Recovery System (SWMU No. 23) to recover the released gasoline from this unit.

Date of Start-up: The start-up date was not identified in the file material.

Date of Closure: It is unknown whether this unit is still active.

Release Controls: The Gasoline Recovery System (SWMU No. 23) has been installed to collect releases from this unit. There are no other known release controls associated with this unit.

Wastes Managed: These tanks contain gasoline, which has been released to the surrounding soil.

History of Releases: It was discovered in 1983 that one gallon of gasoline was being released every 15 minutes from this unit. A four-inch layer of gasoline was detected in a nearby observation well.

Information Needs:

1. Provide a unit description including, size and location of the tanks, and construction materials.
2. Provide a start-up and anticipated closure date.
3. Identify any release controls associated with these tanks.
4. Identify any other known or suspected releases from these tanks.

References: 21

16. Unit Name: Former Leaking 1500 Gallon Gas Tank

Unit Description: The unit was a 1500 gallon steel underground gasoline storage tank in an unknown location.

Date of Start-up: The date this unit was installed is unknown. Information in the file materials indicate that the tank is over 20 years old.

Date of Closure: Although the file material indicates that the tank has been removed, no date of removal has been provided.

Release Controls: There were no known release controls associated with this unit.

Wastes Managed: The unit stored gasoline.

History of Releases: The unit was reported to have leaked from its fill pipe in 1988. No information is available regarding the quantity of duration of the release.

Information Needs:

1. Provide dates of installation and removal of the tank.
2. Provide information about any sampling that was undertaken when the tank was removed.
3. Provide information on any spills or releases from this unit.
4. Provide information on the location and construction of this unit.

References: 5

17. Unit Name: Dental Lab Satellite Accumulation Area

Unit Description: There is no unit description available from the file material.

Date of Start-up: The start-up date cannot be determined from the file material.

Date of Closure: This unit is still active.

Release Controls: There are no known release controls associated with this unit.

Wastes Managed: The wastes managed by this unit cannot be determined from the file material.

History of Releases: There are no known releases from this unit.

Information Needs:

1. Provide a detailed unit description, including location, size, and construction methods and materials.
2. Provide the start-up and anticipated closure dates for this unit.
3. Provide a list of all wastes managed by this unit.
4. Identify any release controls associated with this unit.
5. Identify any releases from this unit.
6. Identify any waste management practices, including the length of time these wastes are stored, and how they are transported to and from this unit.

References: 19

18. <u>Unit Name:</u>	General Medical and Surgical Hospital Satellite Accumulation Area
<u>Unit Description:</u>	There is no unit description available from the file material.
<u>Date of Start-up:</u>	The start-up date cannot be determined from the file material.
<u>Date of Closure:</u>	This unit is still active.
<u>Release Controls:</u>	There are no known release controls associated with this unit.
<u>Wastes Managed:</u>	There is no mention of particular wastes managed by this unit from the file material. It is assumed that this unit is storing general medical waste.
<u>History of Releases:</u>	There are no known releases from this unit.
<u>Information Needs:</u>	<ol style="list-style-type: none"> 1. Provide a detailed unit description including, location, size, and construction materials and methods. 2. Provide a start-up and anticipated closure date for this unit. 3. Identify specific wastes managed by this unit. 4. Provide any information on release controls associated with this unit. 5. Identify any releases from this unit. 6. Identify any waste management practices including, transportation of the wastes to and from the accumulation area.
<u>References:</u>	19

19. Unit Name

Tank No. 196

Unit Description:

The unit is a 5,000 gallon steel, underground storage tank in which leaded gasoline is stored along with associated piping, vents, and pump. The tank is located between Buildings 16 and 155 and provides gasoline to Navy vehicles.

Date of Start-up:

The unit was installed in 1965.

Date of Closure:

The unit is still active.

Waste Managed:

The tank contains leaded gasoline.

Release Controls:

There are no known release controls associated with this unit.

History of Releases:

On March 6, 1987, 10 gallons of gasoline spilled on the pavement when a trucks' filling hose to the tank loose. The gasoline immediately flowed across the pavement and into a storm drain inlet.

Information Needs:

1. Provide information on any tightness testing that has been conducted on this tank.
2. Provide information on any remedial activities that occurred as a result of the release.
3. Provide information on any release controls that have been installed for this unit.

References:

6

20. Unit Name: Military Gas Station

Unit Description: The unit consists of an unknown number of underground gasoline storage tanks which are used to store fuel before being dispensed to military vehicles. No information on the capacity of the tanks or the construction materials, as well as the location of the unit was available from the file material.

Date of Start-up: The start-up date of this unit is unknown.

Date of Closure: The unit is still active.

Release Controls: There are no known release controls associated with this unit.

Wastes Managed: The unit stores gasoline.

History of Releases: A release from this unit was detected in December 1983 when gasoline was observed flowing into excavations where handling lines were being replaced. Combustible readings were detected around adjacent sewer lines.

Information Needs:

1. Provide information on the location, capacity, and materials of construction of this unit.
2. Provide information on any release controls present at the unit.
3. Provide information on any sampling activities associated with the 1983 release.
4. Identify any sampling results or remedial measures that were taken as a result of the 1983 release.
5. Provide information on any other releases that have occurred from this unit.

Reference: 10

21. Unit Name: Facility Fire Department Leaking Gasoline Tank

Unit Description: The unit is an underground gasoline storage tank located on the fire department grounds. No other information is available from the file material.

Date of Start-up: The date this tank was installed cannot be determined from the file material.

Date of Closure: A closure date was not available in the file material.

Release Controls: There are no known release controls associated with this tank.

Wastes Managed: The wastes managed by this unit cannot be determined from the file material.

History of Releases: This unit was reported as leaking on December 9, 1983. The leak was identified to be entering the sewer line. The file material does not indicate what actions were taken in resolving the problem.

Information Needs:

1. Provide a detailed unit description, including size, holding capacity, and construction materials.
2. Identify a start-up and closure date.
3. Identify any release controls associated with this unit.
4. Identify any additional known or suspected releases from this unit.
5. Identify the quantity of waste spilled from the tank.

References: 9

22. Unit Name: Building 53 Underground Storage Tank

Unit Description: The unit is a 1500 gallon steel underground #2 Fuel Oil storage tank located near Building 53. It failed a tightness test in 1988.

Date of Start-up: The start-up date is unknown. The tank was over 20 years old in 1988.

Date of Closure: It is unknown if this unit is still active.

Release Controls: There are no known release controls associated with this unit.

Wastes Managed: The unit contains #2 Fuel Oil.

History of Releases: The unit failed a tightness test in 1988. Some slight soil contamination was observed.

Information Needs: 1. Provide the date this tank was installed.

 2. Describe the current status of this unit.

 3. Provide information on any sampling of remedial measures taken as a result of the release from this unit.

 4. Describe any release controls associated with this unit.

 5. Provide information on any other releases associated with this unit.

References: 11

23. Unit Name: Gasoline Recovery System

Unit Description: This unit of unknown construction or configuration is used to recover gasoline that has been released by the Base Exchange Gas Tanks (SWMU No. 15).

Date of Start-up: The start-up date could not be identified from the file material.

Date of Closure: It is not known whether this unit is still active.

Release Controls: There are no known release controls associated with this unit.

Wastes Managed: Gasoline recovered from ground waste is managed by this unit.

History of Releases: There are no known releases associated with this unit.

Information Needs:

1. Provide a detailed unit description, including size, location, and construction materials.
2. Provide a start-up and anticipated closure date.
3. Identify any release controls associated with this unit.
4. Identify any known or suspected releases.
5. Provide information on the disposition of the recovered material.

References: 21

24. Unit Name: Radioactive Waste Underground Storage Tanks

Unit Description: This unit consists of five underground tanks of unknown capacity or construction located next to Building 43. The tanks are used to temporarily store slightly radioactively contaminated liquids. The liquids are stored until radioactive material decays sufficiently so that the liquids meet discharge standards. Once the decay has occurred, the contents are discharged to the sanitary sewer.

Date of Start-up: The start-up date could not be determined from the file material.

Date of Closure: It cannot be determined from the file material whether this is an active or closed unit.

Release Controls: The tanks are tested for leaks twice a year. There are no other known release controls associated with this unit.

Wastes Managed: Low-level radioactive wastes are temporarily stored in these underground storage tanks.

History of Releases: There are no known releases associated with this unit.

Information Needs:

1. Provide a unit description, including holding capacity, size, exact location, and construction materials.
2. Identify the start-up and closure/anticipated closure dates.
3. Describe the release controls associated with this unit.
4. Provide specific waste types managed by this unit.
5. Identify any history of release from this unit.
6. Identify how long the waste is stored.

References:

2

25. Unit Name: Former Laboratory Waste Disposal Area

Unit Description: This unit is an area of soil with a radius of 30 to 40 feet located about 100 feet off Perimeter Road. Solvents and other laboratory wastes were reportedly disposed of on the soil here. The site is reportedly within ten feet of the steep embankment above Stoney Creek. Additional laboratory waste was disposed of along Taylor, Grounds, and Perimeter roads leading to the site. The area is now being used for storage of construction material.

Date of Start-up: The area accepted waste for approximately 15 years. Although an actual start-up date is not available from the file material, it is inferred that disposal began in 1965.

Date of Closure: The unit accepted laboratory waste until 1980.

Release Controls: There are no known release controls for this unit.

Wastes Managed: This unit was used for the disposal of laboratory wastes. The wastes were believed to be primarily composed of xylene and alcohol, although additional laboratory wastes were disposed of here. For 15 years, an average of 15 to 25 gallons per week were disposed of at this unit. Prior to this unit's handling of laboratory waste, four 55-gallon drums of boiler ash containing soot and #6 fuel oil residue were reportedly deposited at this unit every year for five years.

History of Releases: The units method of waste management constitutes a release.

Information Needs:

1. Provide additional information of the unit description, including exact dimensions and runoff flow patterns.
2. Provide a list of the constituents contained in this laboratory waste.

3. Describe any release controls associated with this unit.
4. Provide any information on unit releases.
5. Provide information on how the wastes were transported to this disposal area. What traffic routes were used?
6. Identify the actual start-up and closure dates of this unit.
7. Identify what measures have been taken to close this unit.
8. Identify whether monitoring activities are/were being taken.
9. Provide information on the location of waste disposal and quantities disposed along Taylor, Grounds, and Perimeter Roads.

References:

2

26. Unit Name: NMRI Xylene Disposal Area

Unit Description: This unit is an area of soil with a radius of approximately 50 to 100 feet located to the east of Buildings 119, 150, and 165. No other information is available from the file material. Wastes were reportedly both buried and poured directly onto the soil of the unit.

Date of Start-up: The start-up date for this unit was not available from the file material.

Date of Closure: The closure date for this unit was not available from the file material.

Release Controls: There were no known release controls obtained from the file material.

Wastes Managed: The unit was utilized for disposal of xylene. The quantity of xylene deposited here is unknown. Additionally, it is suspected that radioactive animal carcasses, from Building 150, have been buried in this area as well.

History of Releases: There are no known releases associated with this unit. However, it is known that Building 150 was determined to be significantly radioactively contaminated in 1962.

Information Needs:

1. Provide additional information on the unit description, including actual dimensions.
2. Provide start-up date.
3. Provide any information on methods used to close this unit.
4. Provide information on whether the radioactive carcasses buried are actually in the same location as the xylene deposits.
5. Provide information on whether other wastes were disposed at this unit.
6. Describe any release controls associated with this unit.

7. Provide any information on unit releases.
8. Identify the quantity and the time spans associated with the disposed wastes at this unit.
9. Identify how the wastes is transported to this unit, and where the xylene is originating.

References:

2

27. Unit Name: Asbestos Burial Area

Unit Description: The unit, which is located on the west side of Stoney Creek behind Buildings 241 and 242, is a 200 foot by 50 foot area of soil. Demolition debris from the destruction of two buildings (Buildings 104 and 105) is buried here. According to facility personnel approximately 250 cubic feet of asbestos was contained in the debris. The site reportedly has about a 15 percent slope and is 200 to 300 feet from Stoney Creek. The site is reportedly now covered with grass.

Date of Start-up: The actual start-up date was not available from the file material; however, it is believed to be in the mid-1970's.

Date of Closure: The closure date was not available from the file material.

Release Controls: There are no known release controls from the file material.

Wastes Managed: The unit contains demolition debris including approximately 250 cubic feet of asbestos.

History of Releases: There is no known history of releases for this unit.

Information Needs:

1. Provide additional information on the unit description, including unit dimensions.
2. Provide a list of any other wastes which may have also been deposited at this site.
3. Describe any release controls associated with this unit.
4. Provide any information on unit releases.
5. Provide any information on how the wastes were transported to the unit.
6. Describe what measures have been taken to close this unit.

7. Provide actual start-up and closure dates.

References:

2

28. Unit Name: Medical Waste Dumpster

Unit Description: This unit is a dumpster of unknown dimensions and construction near the south side of Building 70 which is used to store medical waste. There was no other descriptive information available from the file material.

Date of Start-up: The start-up date was not available from the file material.

Date of Closure: This unit may still be active, however, it cannot be determined from the file material.

Release Controls: There are no known release controls associated with this unit.

Wastes Managed: It is assumed that this unit manages a variety of medical waste.

History of Releases: In 1979 or 1980, a fire broke out in the unit. Attempts to extinguish the fire resulted in an unknown quantity of needles and liquids to be released from the unit and flow under Building 70. In addition, it was reported that firefighters have responded to other fires in this unit.

Information Needs:

1. Provide a detailed unit description including size, location, and construction materials.
2. Identify a start-up and closure/anticipated closure date.
3. Identify any release controls associated with this unit.
4. Identify any known or suspected releases.
5. Provide a list of wastes types managed by this unit.
6. Identify how the wastes are transported to this unit and what happens to them after accumulating.

References: 2

29. Unit Name: Metal Storage Yard

Unit Description: This unit is an approximately 150 foot by 30 foot area of soil located along the fence southeast of Building 154. The unit served as a temporary storage area for scrap metals, electrical parts, old motors, pumps, pipes, beds and empty drums. When the storage area became full, a contractor hauled the waste away.

Date of Start-up: The start-up date was not available from the file material.

Date of Closure: The closure date was not available from the file material. All metal parts were removed from this unit approximately four years ago.

Release Controls: There are no known release controls for this unit.

Wastes Managed: This unit handles miscellaneous solid wastes and debris. It is not known if any hazardous waste was managed by this unit.

History of Releases: There is no known history of releases from this unit.

Information Needs:

1. Provide additional information of the unit description, including exact size and location of the unit.
2. Provide a list of any other waste types deposited at this unit location.
3. Describe any release controls associated with this unit.
4. Provide any information on unit releases.
5. Identify an actual start-up and closure dates.
6. Identify any measures taken to close this unit.

References: 2

30. Unit Name: Sewage Treatment System

Unit Description: The command sewage treatment system is permitted to discharge at 4 outfalls. There is indication of an additional outfall, Outfall 005, from the file material. However, the NPDES permit does not account for this. It cannot be determined if the treatment system is chemical, biological, physical or all three. Additional information will be obtained during the VSI.

Date of Start-up: The start-up date was not available from the file material.

Date of Closure: The closure date was not available from the file material.

Release Controls: There are no known release controls associated with this unit.

Wastes Managed: This unit manages sanitary waste along with some industrial and low-level radioactive waste.

History of Releases: There have been a number of releases of oil into this unit.

Information Needs:

1. Provide additional information on the unit description, including unit dimensions and location.
2. Describe any release controls associated with this unit.
3. Provide any information on unit releases.
4. Provide actual start-up and closure dates.
5. Identify any monitoring activities at this unit area.

References: 4, 14

31. Unit Name: Waste Oil Tank No. 273

Unit Description: The unit is a 2,000 gallon steel underground storage tank used to store waste oil. It is located near Building 155. No information about the source of the material being stored in the tank or the disposition of this material was available from the file material.

Date of Start-up: The date this tank was installed is unknown.

Date of Closure: It is not known if this unit is still active.

Release Controls: There are no known release controls associated with this unit.

Wastes Managed: The unit manages waste oil.

History of Releases: There are no known releases associated with this unit.

Information Needs:

1. Provide information on the specific location of this tank.
2. Provide information on the source of the wastes managed by this unit and the disposition of the contents of the unit.
3. Identify a date of installation for the tank and what the current operating status of the unit is.
4. Provide information on any releases that have occurred from this unit.
5. Provide details on any release controls associated with this unit.

References: 6

32. Unit Name:

Waste Oil Tank No. 295

Unit Description:

The unit is a 550 gallon steel underground storage tank used to store waste oil. It is located near Building 51. No information about the source of the material being stored in the tank or the disposition of this material was available from the file material.

Date of Start-up:

The date this tank was installed is unknown.

Date of Closure:

It is not known if this unit is still active.

Release Controls:

There are no known release controls associated with this unit.

Wastes Managed:

The unit manages waste oil.

History of Releases:

There are no known releases associated with this unit.

Information Needs:

1. Provide information on the specific location of this tank.
2. Provide information on the source of the wastes managed by this unit and the disposition of the contents of the unit.
3. Identify a date of installation for the tank and what the current operating status of the unit is.
4. Provide information on any releases that have occurred from this unit.
5. Provide details on any release controls associated with this unit.

References:

6

33. <u>Unit Name:</u>	USUHS Waste Storage Warehouse
<u>Unit Description:</u>	The unit is a warehouse of unknown location, dimensions, or construction that was constructed to house USUHS's waste chemicals and radioactive materials. The chemical and radioactive wastes are reportedly segregated into separate rooms.
<u>Date of Start-up:</u>	The start-up date of this unit is unknown.
<u>Date of Closure:</u>	The unit is still active.
<u>Release Controls:</u>	There are no known release controls associated with this unit.
<u>Wastes Managed:</u>	This unit manages unspecified chemical and radioactive wastes.
<u>History of Releases:</u>	There are no known releases from this unit.
<u>Information Needs:</u>	<ol style="list-style-type: none"> 1. Provide information on the location of this unit. 2. Provide information on the source of the wastes managed by this unit and the disposition of the contents of the unit. 3. Identify the start-up date of this unit. 4. Provide information on any releases that have occurred from this unit. 5. Provide details on any release controls associated with this unit. 6. Provide information on specific wastes managed by this unit.
<u>References:</u>	18

34. Unit Name: USUHS Mixed Waste Storage Area

Unit Description: The unit is a storage area of unknown dimensions located in Room 6023 of the USUHS teaching hospital. It is used for temporary storage of low-level mixed waste generated by USUHS before it is packed and disposed.

Date of Start-up: The start-up date of this unit is unknown.

Date of Closure: The current operating status of this unit is unknown.

Release Controls: There are no known release controls associated with this unit.

Wastes Managed: The unit manages low-level mixed wastes. No information on specific constituents of wastes managed by this unit was available from the file material.

History of Releases: There are no known releases from this unit.

Information Needs:

1. Provide information on the location of this unit.
2. Provide information on the source of the wastes managed by this unit and the disposition of the contents of the unit.
3. Identify the start-up date and the current operating status of this unit.
4. Provide information on any releases that have occurred from this unit.
5. Provide details on any release controls associated with this unit.
6. Provide information on specific wastes managed by this unit.

References: 18

REFERENCES

1. Controlled Hazardous Substances Permit Application, prepared by WESTON, July 1985.
2. Preliminary Assessment Report, prepared by the Naval Energy and Environmental Support Activity (NEESA), April 1988.
3. Report of Inspection to Determine Compliance with Toxic Substances Control Act (TSCA) Regulations, prepared by State of Maryland, Department of the Environment Waste Management Administration, November 30, 1988.
4. Industrial Discharge Inspection Report, performed by State of Maryland, Department of the Environment, March 7, 1990.
5. Underground Leak Detection Report, prepared by the State of Maryland Department of the Environment Waste Management Administration, reported on June 27, 1988.
6. UST Systems Tightness Test, provided by CDM.
7. Oil Spill Report, performed by the State of Maryland, Department of the Environment Waste Management Administration, August 24, 1988.
8. Inspection Report, performed by the State of Maryland, Department of the Environment Hazardous and Solid Waste Management Administration, September 1, 1989.
9. Problem/Activity Form, prepared by the State of Maryland, Department of Natural Resources, Water Resources Administration, December 9, 1983.
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11. Tank Leak Report, prepared by the State of Maryland, Department of the Environment, Waste Management Administration, August 25, 1988.
12. Oil Spill Report, prepared by the State of Maryland, Department of the Environment, Waste Management Administration, August 31, 1989.
13. Oil Spill Report, prepared by the State of Maryland, Department of the Environment, Waste Management Administration, April 14, 1989.

14. Authorization to Discharge Under the National Pollutant Discharge Elimination System, prepared by the Water Management Division, U.S. EPA Region III.
15. Letter to the Maryland Department of the Environment, Hazardous and Solid Waste Division, from V.J. Wieszek, Head, Environmental Program Department NAVMEDCOM NATCAPREG, December 28, 1987.
16. Controlled Hazardous Substances Facility Permit # A-221, prepared by the State of Maryland, Department of the Environment, December 24, 1987.
17. CEI Inspection Report, performed by the State of Maryland, Department of the Environment, Hazardous and Solid Waste Management Administration, June 22, 1989.
18. CEI Inspection Report, performed by the State of Maryland, Department of the Environment, Hazardous and Solid Waste Management Administration, March 10, 1989.
19. Letter to Jim Hedberg, Maryland Department of the Environment, from Steven A. Stokes, Head Environmental Program Department, NAVMEDCOM NATCAPREG, June 30, 1989.
20. Inventory of Federal Agency Hazardous Waste Activities.
21. Site complaint, prepared by the State of Maryland Department of Natural Resources, December 14, 1983.

VI. EXECUTIVE SUMMARY

A RCRA Facility Assessment (RFA) of Naval Medical Command; Bethesda, Maryland was conducted to identify sources and/or areas of contaminant releases and to evaluate the potential for releases of contaminants to the environment from solid waste management units (SWMUs) and areas of concern (AOCs) identified at this facility. This RFA consisted of a Preliminary Review (PR) of the pertinent EPA Region III files and the Maryland State files, and a Visual Site Inspection (VSI) of the facility performed July 11-12, 1990. The objective of the RFA is to use the corrective action authorities provided by the 1984 Hazardous and Solid Waste Amendments to RCRA to address otherwise unregulated releases of hazardous constituents to local surface waters, soils, groundwater, air, and through subsurface gas generation.

Naval Medical Command is a U.S. Navy Headquarters facility located on 243 acres in Bethesda, Maryland. The facility functions to provide and administer the overall provision of quality health care services throughout the region, and serves as a national research and teaching institute.

The facility houses a number of other commands, including:

NHBETH	-	Naval Hospital Bethesda
AFRRI	-	Armed Forces Radiobiology Research Institute
NNDC	-	National Naval Dental Center
NHSETC	-	Naval Health Sciences Education and Training Command
NMDSC	-	Naval Medical Data Services Center
NMRDC	-	Naval Medical Research and Development Command
NMRI	-	Naval Medical Research Institute
NSHS	-	Naval School of Health Services
USUHS	-	Uniformed Services University of the Health Sciences
NCI	-	National Cancer Institute

Commands AFRRI, NNDC, NMRI, NHBETH, NCI, and USUHS each have their own hazardous waste temporary storage areas. Wastes accumulated in these areas are then transported to the RCRA regulated, Building 256 Storage Facility (SWMU No. 1) before being transported offsite.

The wastes managed by this facility are laboratory, medical, and low-level radioactive wastes. In addition, the facility manages wastes such as paint waste, waste solvents, waste pesticides, and waste petroleum products as a result of the activities necessary to support the facility operations.

In December 1987, the State of Maryland issued a Controlled Hazardous Substances Permit for Building 256. Building 256 (SWMU No. 1) has a maximum storage capacity of 12,390 gallons (2,430 for container storage, 760 for drum storage, and 9,200 for PCB storage). Previously, the Former Building 224 (SWMU No. 8) was used in this capacity.

NAVMEDCOM NATCAPREG is primarily underlain by closely folded sedimentary rocks that have been metamorphosed by granite rocks. The structure generally trends northeast-southeast approximately paralleling the fall line between the Piedmont and the overlapping Cretaceous Coastal Plain sediments. The facility location consists of well drained, nearly level to moderately steep, loamy soils that developed in materials from strongly acid to very acid throughout, except where limed. The Piedmont saprolite and gneiss bedrock are considered to be the single water bearing unit, with the water under unconfined or water table conditions. In general groundwater is reported to be between five and 25 feet below ground surface. Although data is not available, it is assumed that shallow groundwater occurring in unconfined sediment layers would follow general topographic trend and flow into Stoney Creek.

A total of 31 SWMUs and 14 AOCs were identified at this facility. Based on a review of the files, and observations made during the VSI, the potential for release and suggested actions for the SWMUs and AOCs have been developed. In general, the SWMUs of greatest concern are:

- SWMU No. 2 - Former Laboratory Waste Disposal Area
- SWMU No. 3 - Asbestos Burial Area
- SWMU No. 4 - Pesticide Shop Former Temporary Storage Area
- SWMU No. 5 - Roadside Laboratory Waste Disposal Area

These units are of greatest concern because wastes were disposed directly to the environment. In addition, release potentials could not be determined for several below grade units since the integrity of the units could not be determined.

Suggestions for further action include the following: RCRA Facility Investigation (RFI) to determine the nature and extent of documented releases of hazardous constituents; soil sampling to determine whether a release of hazardous constituents has occurred; continuation of groundwater monitoring at existing wells; and integrity testing to determine the conditions of below-grade units.

A summary of conclusions and suggested further actions for the 31 SWMUs and 14 AOCs are included in Chapter VII of this report.

VII. RELEASE PATHWAYS

Groundwater

At the NAVMEDCOM NATCAPREG facility, the groundwater is reportedly between 5 and 25 feet below the ground surface. The potential for release into the groundwater ranges from low to high. Most of the SWMUs are located indoors, and therefore the potential for a release into the groundwater would be low. The overall potential for release to groundwater is considered high for underground storage tanks, or other units that have impaired integrity or where waste containing hazardous constituents has already come into contact with the surrounding soil.

Soil

The potential for releases from current operations ranges from low to high. Units located indoors, are considered to have a low potential for releases into the environment. The potential is high for those units where the chance of overflow exists, and in underground storage tanks (some of which have failed integrity tests), and for units which manage waste in contact with soil.

Air

The potential for releases to the air from units at the facility is considered to be low. Current operations include the accumulation of wastes indoors before being transported off-site for disposal.

Surface Water

The potential for release to the surface water from the units at the facility ranges from low to high. The facility has many tributaries which lead to Stoney Creek. Most of the units are located indoors, however, some units are in close proximity to Stoney Creek and its tributaries. There have also been releases directly into these waters from NPDES outfalls.

Subsurface Gas

The potential for the generation of subsurface gas is low for this facility. The only soils at the facility are aerobic and would not tend to promote gas generation.

VIII SUMMARY OF CONCLUSIONS AND SUGGESTED FURTHER ACTIONS

This section presents the conclusions and suggested further actions for the solid waste management units (SWMUs) and other areas of concern (AOCs) identified during the Preliminary Report (PR) and the Visual Site Inspection (VSI) of the NAVMEDCOM NATCAPREG facility.

For each unit, the potential for release to soil and groundwater, surface water, air, and from the generation of subsurface gas is assessed. For the purposes of this report, a high potential for release was assigned in cases where there was documented contamination, visual evidence of release, or where the design/operation of the unit was determined to allow releases to one or more of the environmental media. A moderate release potential was assigned in cases where there may be a release during certain operational periods or depending on the volume of material handled at a given time. A low potential for release was assigned in cases where units are located inside buildings, are in good condition, have appropriate release controls, or do not manage hazardous waste or wastes containing hazardous constituents.

In cases where the release potential is dependent on the integrity of the unit and the integrity could not be assessed as part of the investigation (e.g. below-grade units), this has been indicated in the conclusions for the unit and integrity testing has been suggested as the further action.

1. Unit Name: Building 256 Storage Facility

CONCLUSIONS: Soil: There is a low potential for release to soil based on the location of this unit on a concrete floor within a building.

Groundwater: There is low potential for release to the groundwater based on the location of this unit on a concrete floor within a building.

Surface Water: There is a low potential for release to surface water based on the location of this unit within a building and the distance to the nearest surface water.

Air: There is a low potential for release to air based on the indoor location of this unit.

Subsurface Gas: There is a low potential for generation of subsurface gas based on the location of the unit on a concrete floor within a building.

SUGGESTED FURTHER ACTION: No further action is suggested for this unit at this time other than for continue operating under the permit requirements.

2. Unit Name: Former Laboratory Waste Disposal Area

CONCLUSIONS: Soil: There is a high potential for release into the soil from this unit. The unit served as an open disposal area for laboratory wastes from 1965 to 1980.

Groundwater: There is a moderate to high potential for release into the groundwater from this unit. Waste was disposed to the soil and may have migrated to a shallow water table.

Surface Water: There is a moderate to high potential for release into the surface water from this unit. The unit is in very close proximity to Stoney Creek.

Air: There is low potential for release to the air based on the fact that the unit reportedly ceased operating in 1980. Any volatiles deposited there would have dissipated.

Subsurface Gas: There is a low potential for generation of subsurface gas because the soil at the unit would tend to be aerobic.

SUGGESTED FURTHER ACTIONS: Since a release of hazardous constituents has already been documented, a RCRA Facility Investigation (RFI) is suggested for this unit to determine the nature and extent of the contamination. The facility should also provide and follow a sampling plan to identify the location of the contamination. The soil samples should be analyzed for the Appendix IX organic constituents.

3. Unit Name: Asbestos Burial Area

CONCLUSIONS: Soil: There is a high potential for release into the soil. The reported burial site is underground.

Groundwater: There is a low potential for release into the groundwater. The wastes in question is inert.

Surface Water: There is a low potential for release into the surface water. The waste in question is inert.

Air: During the disposal period, the potential for release to air was high. However, since the unit is now located underground, there is low potential for release into air.

Subsurface Gas: There is low potential for generation of subsurface gas. The waste in question is not biologically active.

SUGGESTED FURTHER ACTION:

Soil sampling is suggested to determine if releases of asbestos have occurred. A minimum of three soil samples should be collected at six-inch, one-foot, three-foot, and five-foot depths. The samples should be analyzed for asbestos. If contamination is found, the unit may be referred to TSCA and regulated as such.

4. Unit Name: Pesticide Shop Former Temporary Storage Area

CONCLUSIONS: Soil: There is a low potential for release into the soil. The unit, was located indoors, and wastes were stored on shelves.

Groundwater: There is a low potential for release into the groundwater. The unit was located indoors.

Surface Water: There is a low potential for release into the groundwater. The unit was not located in close proximity to Stoney Creek or its tributaries.

Air: There is low potential for release to the air from this unit. The wastes were managed indoors, and the building is now demolished.

Subsurface Gas: There is low potential for subsurface gas generation since the wastes were managed indoors.

SUGGESTED FURTHER ACTIONS: No further action is suggested for this unit at this time.

5. Unit Name: Roadside Laboratory Waste Disposal Area

CONCLUSIONS: Soil: Releases of hazardous constituents from this unit have been documented. The unit manages waste poured directly onto the soil surface with no known release controls.

Groundwater: There is a moderate to high potential for release to the groundwater from this unit. The waste management practices involved no release controls, and therefore, the wastes present in the soil may have migrated to the groundwater.

Surface Water: During the disposal period, there was a moderate potential for release to the surface water because of the slope of the road, and the proximity to Stoney Creek and its tributaries. The present potential for this unit to release to the surface water would now be considered low.

Air: There is low potential for release to the air from this unit. During the actual disposal, the potential would have been moderate because of the volatile nature of the wastes managed.

Subsurface Gas: The potential for subsurface gas generation from a release from this unit is low. The wastes managed were disposed of directly onto the surface soil, in aerobic conditions.

SUGGESTED FURTHER ACTIONS: Since a release of hazardous constituents has already been documented, a RCRA Facility Investigation (RFI) is suggested for this unit to determine the nature and extent of the contamination. The facility should also provide and follow a sampling plan to identify the location of the contamination. The soil samples should be analyzed for the Appendix IX organic constituents.

6. Unit Name: Carpenter Shop Temporary Storage Area

CONCLUSIONS: Soil: There is a low potential for release to soil based on the location of this unit on a concrete floor within a building.

Groundwater: There is low potential for release to the groundwater based on the location of this unit on a concrete floor within a building.

Surface Water: There is a low potential for release to surface water based on the location of this unit within a building.

Air: There is a low potential for release to air based on the indoor location of this unit.

Subsurface Gas: There is a low potential for generation of subsurface gas based on the location of the unit on a concrete floor within a building.

SUGGESTED FURTHER ACTION: No further action is suggested for this unit at this time.

7. Unit Name: Paint Shop Former Temporary Storage Area

CONCLUSIONS: Soil: There is a low potential for release to soil. The former unit is situated on a concrete base approximately five feet from the ground.

Groundwater: There is a low potential for release to groundwater from this unit. The unit is located outside on a concrete base elevated approximately 5 feet from the ground.

Surface Water: The potential for release to the surface water from this unit is low. The unit is located on a concrete base elevated approximately 5 feet from the ground. The nearest surface water body is not in close proximity to the unit.

Air: There was a low potential for release from this unit into the air. The wastes were reportedly stored in closed drums.

Subsurface Gas: There is a low potential of release to produce subsurface gas. The unit was located outdoors on a concrete base.

SUGGESTED FURTHER ACTIONS: No further action is suggested at for this unit at this time.

8. Unit Name: Former Building 224 Storage Area

CONCLUSIONS: Soil: The potential for release to the soil is low. The unit, when operating, was located indoors and had a concrete base.

Groundwater: The potential for release to the groundwater is low. The unit was located indoors and had a concrete base.

Surface Water: The potential for release to the surface water is low. The unit was located indoors and had a concrete base.

Air: The potential for release to the air is low for this unit. The unit was located indoors.

Subsurface gas: The potential for the production of subsurface gas from a release from this unit is low. The unit was located indoors on a concrete base.

SUGGESTED FURTHER ACTIONS: No further action is required for this unit at this time.

9. Unit Name: NMRI Xylene Disposal Area

CONCLUSIONS: Soil: The potential for release to the soil is high. The waste disposal method included both burying waste xylene and pouring it directly on the ground.

Groundwater: The potential for release to the groundwater is high for this unit. The soil is already reported to be contaminated and therefore, the contaminants may migrate downward to the groundwater.

Surface Water: The past potential for release to the surface water was high when the unit was active because of its close proximity to a tributary of Stoney Creek. Since the site has been inactive for years, the current potential for release is low.

Air: The past potential for release to the air was moderate when the unit was active since the wastes were reported to have been poured directly on the surface soil. However, the current potential release is now low since this unit is not currently active.

Subsurface Gas: The potential for release from this unit to produce subsurface gas is low. The soils at this are aerobic.

SUGGESTED FURTHER ACTIONS:

Since a release of hazardous constituents has already been documented, a RCRA Facility Investigation (RFI) is suggested for this unit to determine the nature and extent of the contamination. The facility should also provide and follow a sampling plan to identify the location of the contamination. The soil samples should be analyzed for the Appendix IX organic constituents.

10. Unit Name: Naval Hospital Temporary Storage Area

CONCLUSIONS: Soil: There is a low potential for release to soil based on the location of this unit on a concrete floor within a building.

Groundwater: There is low potential for release to the groundwater based on the location of this unit on a concrete floor within a building.

Surface Water: There is a low potential for release to surface water based on the location of this unit within a building.

Air: There is a low potential for release to air based on the indoor location of this unit.

Subsurface Gas: There is a low potential for generation of subsurface gas based on the location of this unit on a concrete floor within a building.

SUGGESTED FURTHER ACTION: No further action is suggested for this unit at this time.

11. Unit Name: Naval Hospital Silver Recovery Units - 15

CONCLUSIONS: Soil: There is a low potential for release to soil based on the location of these units on a tiled floor within a building.

Groundwater: There is a low potential for release to the groundwater based on the location of these units on a tiled floor within a building.

Surface Water: There is a low potential for release to surface water based on the location of these units within a building and the distance to the nearest surface water. The byproducts, water and mild acetic acid, are discharged into the sanitary sewer system.

Air: There is a low potential for release to the air based on the indoor location of this unit.

Subsurface Gas: There is a low potential for generation of subsurface gas based on the location of these units on a tiled floor within a building.

SUGGESTED FURTHER ACTION: No further action is suggested for these units at this time.

12. Unit Name: Naval Hospital Xylene Distillation Unit

CONCLUSIONS: Soil: There is a low potential for release to soil based on the location of this unit on a concrete floor within a building.

Groundwater: There is low potential for release to the groundwater based on the location of this unit on a concrete floor within a building.

Surface Water: There is a low potential for release to surface water based on the location of this unit within a building and the distance to the nearest surface water.

Air: There is a low potential for release to air based on the indoor location of this unit.

Subsurface Gas: There is a low potential for generation of subsurface gas based on the location of this unit on a concrete floor within a building.

SUGGESTED FURTHER ACTION: No further action is suggested for this unit at this time.

13. Unit Name: Dental Lab Temporary Storage Area

CONCLUSIONS: Soil: There is a low potential for release to soil based on the location of this unit on a concrete floor within a building.

Groundwater: There is low potential for release to the groundwater based on the location of this unit on a concrete floor within a building.

Surface Water: There is a low potential for release to surface water based on the location of this unit within a building and the distance to the nearest surface water.

Air: There is a low potential for release to air based on the indoor location of this unit.

Subsurface Gas: There is a low potential for generation of subsurface gas based on the location of this unit on a concrete floor within a building.

SUGGESTED FURTHER ACTION: No further action is suggested for this unit at this time.

14. Unit Name: NCI Temporary Storage Area

CONCLUSIONS: Soil: There is a low potential for release to soil based on the location of this unit on a concrete floor within a building.

Groundwater: There is low potential for release to the groundwater based on the location of this unit on a concrete floor within a building.

Surface Water: There is a low potential for release to surface water based on the location of this unit within a building and the distance to the nearest surface water.

Air: There is a low potential for release to air based on the indoor location of this unit.

Subsurface Gas: There is a low potential for generation of subsurface gas based on the location of this unit on a concrete floor within a building.

SUGGESTED FURTHER ACTION: No further action is suggested for this unit at this time.

15. Unit Name: NMRI Former Temporary Storage Unit

CONCLUSIONS: Soil: There is a low potential for release to soil based on the location of this unit on a concrete floor within a building.

Groundwater: There is low potential for release to the groundwater based on the location of this unit on a concrete floor within a building.

Surface Water: There is a low potential for release to surface water based on the location of this unit within a building and the distance to the nearest surface water.

Air: There is a low potential for release to air based on the indoor location of this unit.

Subsurface Gas: There is a low potential for generation of subsurface gas based on the location of this unit on a concrete floor within a building.

SUGGESTED FURTHER ACTION: No further action is suggested for this unit at this time.

16. Unit Name: NMRI Current Temporary Storage Unit

CONCLUSIONS: Soil: There is a low potential for release to soil based on the location of this unit on a concrete floor within a building.

Groundwater: There is low potential for release to the groundwater based on the location of this unit on a concrete floor within a building.

Surface Water: There is a low potential for release to surface water based on the location of this unit within a building and the distance to the nearest surface water.

Air: There is a low potential for release to air based on the indoor location of this unit.

Subsurface Gas: There is a low potential for generation of subsurface gas based on the location of this unit on a concrete floor within a building.

SUGGESTED FURTHER ACTION: No further action is suggested for this unit at this time.

17. Unit Name: Military Gas Station Waste Oil Tank

CONCLUSIONS: Soil: The potential for release to the soil is dependent on the integrity of the unit, which could not be determined during the VSI.

Groundwater: The potential for release to the soil is dependent on the integrity of the unit, which could not be determined during the VSI.

Surface Water: There is a low potential for release to surface water based on the distance to the nearest surface water body.

Air: There is a low potential for release to the air since the unit is located underground.

Subsurface Gas: The potential for generation of subsurface gas is dependent on the integrity of the unit, which could not be determined during the VSI.

SUGGESTED FURTHER ACTIONS: It is suggested that the integrity of this in-ground unit be determined. The unit should be drained and visually inspected for crack or damage. Based on the results, soil sampling may be warranted to determine if hazardous constituents have been release. Soils samples should be collected from the areas where the unit is impaired and analyzed for the constituents in the Skinner List.

18. Unit Name: Military Gas Station Solvent Storage Unit

CONCLUSIONS: Soil: There is a low potential for release to soil based on the location of this unit on a concrete floor within a building.

Groundwater: There is low potential for release to the groundwater based on the location of this unit on a concrete floor within a building.

Surface Water: There is a low potential for release to surface water based on the location of this unit within a building and the distance to the nearest surface water.

Air: There is a low potential for release to air based on the indoor location of this unit.

Subsurface Gas: There is a low potential for generation of subsurface gas based on the location of this unit on a concrete floor within a building.

SUGGESTED FURTHER ACTION: No further action is suggested for this unit at this time.

19. Unit Name: AFFRI Underground Storage Tank

CONCLUSIONS: Soils: The potential for release to the soil is high from this unit. The unit has reportedly already failed the integrity test.

Groundwater: The potential for release to the groundwater is moderate to high.

Surface Water: The potential for release to surface water is low. The tank was previously located under ground and there is no surface water body in close proximity.

Air: The potential for release to the air is low. The tank is active located under ground.

Subsurface Gas: The potential for generation of subsurface gas is low. The tank is currently being prepared, and the contamination found in the excavated soil was minimal.

SUGGESTED FURTHER ACTIONS: It is suggested that the integrity of this in-ground unit be determined before being reactivated. It is also suggested that additional samples be taken from the remaining soil. Soil samples should be analyzed for other organic constituents of Appendix IX. The results of this analysis may warrant an RFI.

20. Unit Name: AFFRI Mixed Waste Underground Storage Tanks

CONCLUSIONS: Soil: The potential for release to the soil is dependent on the integrity of the units, which could not be determined during the VSI.

Groundwater: The potential for release to the groundwater is dependent of the integrity of the units, which could not be determined during the VSI.

Surface Water: There is a low potential for release to the surface water because of the distance to the nearest surface water body.

Air: There is a low potential for release to air based on the in-ground location of the unit.

Subsurface Gas: The potential for generation of subsurface gas is dependent of the integrity of the unit, which could not be determined during the VSI.

SUGGESTED FURTHER ACTIONS: It is suggested that the facility locate a disposal facility for this mixed waste and remove the tanks as planned. It is also suggested that an integrity test be performed prior to tank removal. An RFI may be warranted after the integrity test.

21. Unit Name: AFRRI Satellite Accumulation Area

CONCLUSIONS: Soil: There is a low potential for release to soil based on the location of this unit on a concrete floor within a building.

Groundwater: There is low potential for release to the groundwater based on the location of this unit on a concrete floor within a building.

Surface Water: There is a low potential for release to surface water based on the location of this unit within a building and the distance to the nearest surface water.

Air: There is a low potential for release to air based on the indoor location of this unit.

Subsurface Gas: There is no potential for generation of subsurface gas based on the location of this unit on a concrete floor within a building.

SUGGESTED FURTHER ACTION: No further action is suggested for this unit at this time.

22. Unit Name: USUHS Scintillation Fluid Disposal Unit

CONCLUSIONS: Soil: There is a low potential for release to soil based on the location of this unit on a concrete floor within a building.

Groundwater: There is low potential for release to the groundwater based on the location of this unit on a concrete floor within a building.

Surface Water: There is a low potential for release to surface water based on the location of this unit within a building and the distance to the nearest surface water.

Air: There is a low potential for release to air based on the indoor location of this unit.

Subsurface Gas: There is a low potential for generation of subsurface gas based on the location of the unit on a concrete floor within a building.

SUGGESTED FURTHER ACTION: No further action is suggested for this unit at this time.

23. Unit Name: Storm Sewer System

CONCLUSIONS: Soil: The potential for release to soil is dependent on the integrity of the unit, which could not be determined during the VSI.

Groundwater: The potential for release to groundwater is dependent of the integrity of this unit, which could not be determined during the VSI.

Surface Water: The potential for release to surface water is moderate. The unit discharges into Stoney Creek and its tributaries.

Air: The potential for release to the air is low based on the low volatility of waste managed.

Subsurface Gas: The potential for generation of subsurface gas is dependent on the integrity of the unit, which could not be determined during the VSI.

SUGGESTED FURTHER ACTIONS: It is suggested that the integrity of this unit be determined. Based on the results, soil sampling may be warranted to determine if hazardous constituents have been released. Soil samples should be collected from the areas where the unit is impaired and analyzed for the constituents of Appendix IX. A minimum of three sediment samples should be taken at each at outfall area. The organic and metallic constituents of Appendix IX should be analyzed for.

24. Unit Name: USUHS Former Temporary Storage Area

CONCLUSIONS: Soil: There is a low potential for release to soil based on the location of this unit on a concrete floor within a building.

Groundwater: There is low potential for release to the groundwater based on the location of this unit on a concrete floor within a building.

Surface Water: There is a low potential for release to surface water based on the location of this unit within a building and the distance to the nearest surface water.

Air: There is a low potential for release to air based on the indoor location of this unit.

Subsurface Gas: There is a low potential for generation of subsurface gas based on the location of the unit on a concrete floor within a building.

SUGGESTED FURTHER ACTION: No further action is suggested for this unit at this time.

25. Unit Name: USUHS Current Temporary Storage Area

CONCLUSIONS: Soil: There is a low potential for release to soil based on the location of this unit on a concrete floor within a building.

Groundwater: There is low potential for release to the groundwater based on the location of this unit on a concrete floor within a building.

Surface Water: There is a low potential for release to surface water based on the location of this unit within a building and the distance to the nearest surface water.

Air: There is a low potential for release to air based on the indoor location of this unit.

Subsurface Gas: There is a low potential for generation of subsurface gas based on the location of the unit on a concrete floor within a building.

SUGGESTED FURTHER ACTION: No further action is suggested for this unit at this time.

26. Unit Name: Medical Waste Dumpster

CONCLUSIONS: Soil: The potential for release to the soil is low. The spill occurred on pavement, and runoff passed through the Storm Water Drainage System (SWMU 23).

Groundwater: The potential for release to the groundwater is low. The release occurred on pavement, and was passed through the storm water drains.

Surface Water: The potential for release to the surface waters was high at the time of the release. The current potential for release is not low.

Air: The potential for a release to the air was high at the time of the release because of the volatile nature of the formaldehyde which was released. The potential for a release is now low.

Subsurface Gas: The potential for generation of subsurface gas is low. The release would have discharged to surface waters.

SUGGESTED FURTHER ACTIONS: No further action is suggested for this unit at this time. It is suggested that no liquid waste be managed by this unit. (The Suggested Further Action for SWMU 23 will cover the release from this unit.)

26. Unit Name: Medical Waste Dumpster

CONCLUSIONS: Soil: The potential for release to the soil is low. The spill occurred on pavement, and runoff passed through the Storm Water Drainage System (SWMU 23).

Groundwater: The potential for release to the groundwater is low. The release occurred on pavement, and was passed through the storm water drains.

Surface Water: The potential for release to the surface waters was high at the time of the release. The current potential for release is not low.

Air: The potential for a release to the air was high at the time of the release because of the volatile nature of the formaldehyde which was released. The potential for a release is now low.

Subsurface Gas: The potential for generation of subsurface gas is low. The releases would have discharged to surface waters.

SUGGESTED FURTHER ACTIONS: No further action is suggested for this unit at this time. It is suggested that no liquid waste be managed by this unit. (The Suggested Further Action for SWMU 23 will cover the release from this unit.)

27. Unit Name: Base Exchange Gas Tanks

CONCLUSIONS: Soil: The potential for release to soil is high. Releases have occurred on at least two occasions.

Groundwater: The potential for release to groundwater is high. An active groundwater remediation program is ongoing.

Surface Water: The potential for release to surface water is high. Stoney Creek is in close proximity and shallow groundwater would likely discharge to it.

Air: There is low potential for release to the air based on the underground location of the unit.

Subsurface Gas: The potential for generation of subsurface gas is low.

SUGGESTED FURTHER ACTIONS: Since release to the soil has been documented, a RCRA Facility Investigation (RFI) is suggested for this unit to determine the nature and extent of the contamination. The RFI should build on the groundwater monitoring system already in place.

28. Unit Name: Base Exchange Gasoline Recovery System

CONCLUSIONS: Soil: The potential for release is low. The unit is located within a shed.

Groundwater: The potential for release is low. The unit is designed to recover waste from groundwater released from another SWMU.

Surface Water: The potential for release to surface water is low based on the location of the unit in a shed.

Air: The potential for release to air is low based on the location of this unit within a shed.

Subsurface Gas: The potential for generation of subsurface gas is low for this unit. The recovery system is above ground and enclosed.

SUGGESTED FURTHER ACTIONS: No further action is suggested for this unit at this time.

29. Unit Name: Base Exchange Gas Station Solvent Storage Unit

CONCLUSIONS: Soil: There is a low potential for release to soil based on the location of this unit on a concrete floor within a building.

Groundwater: There is low potential for release to the groundwater based on the location of this unit on a concrete floor within a building.

Surface Water: There is a low potential for release to surface water based on the location of this unit within a building and the distance to the nearest surface water.

Air: There is a low potential for release to air based on the indoor location of this unit.

Subsurface Gas: There is a low potential for generation of subsurface gas based on the location of the unit on a concrete floor within a building.

SUGGESTED FURTHER ACTION: No further action is suggested for this unit at this time.

30. Unit Name: Base Exchange Waste Oil Tank

CONCLUSIONS: Soil: The potential for release to the soil is dependent on the integrity of the unit, which could not be determined during the VSI.

Groundwater: The potential for release to the soil is dependent on the integrity of the unit, which could not be determined during the VSI.

Surface Water: There is a low potential for release to surface water based on the distance to the nearest surface water body and because the unit is located underground.

Air: There is a low potential for release to the air since the unit is located underground.

Subsurface Gas: The potential for generation of subsurface gas is dependent on the integrity of the unit, which could not be determined during the VSI.

SUGGESTED FURTHER ACTIONS: It is suggested that the integrity of this in-ground unit be determined. Based on the results, soil sampling may be warranted to determine if hazardous constituents have been release. Soils samples should be collected from the areas where the unit is impaired and analyzed for the constituents of the Skinner List.

31. Unit Name: Building 53 Underground Storage Tank

CONCLUSIONS: Soil: The potential for release to soil is high. This unit failed an integrity test before it was removed. However, the State of Maryland has certified that the surrounding soil was not contaminated.

Groundwater: The potential for release to groundwater is low.

Surface Water: The potential for release to surface water is low based on the distance to the nearest surface water.

Air: There is a low potential for release to air based on the underground location of the unit.

Subsurface Gas: The potential for generation of subsurface gas is low. The soils at the unit are aerobic.

SUGGESTED FURTHER ACTIONS: No further action is necessary for this unit at this time.

A-F. Area Name: Removed Underground Storage Tanks

CONCLUSIONS: Soil: The potential for release to the soil is dependent on the integrity of the units before removal.

Groundwater: The potential for release to groundwater is dependent on the integrity of the units before and during removal.

Surface Water: There is low potential for release to surface water based on the location of these units underground and from the distance to the closest surface water.

Air: There is low potential for release to air based on the location on the units underground.

Subsurface Gas: The potential for generation of subsurface gas is dependent on the integrity of the units before and during removal.

SUGGESTED FURTHER ACTIONS: It is suggested that soil samples be collected at the former tank areas. A minimum of three samples should be taken at each site. The samples should be collected below a depth of 5 feet and analyzed for the petroleum constituents.

G. Area Name: Building 21 Underground Storage Tank

CONCLUSIONS: Soil: The potential for release to the soil is dependent on the integrity of the unit before removal.

Groundwater: The potential for release to groundwater is dependent on the integrity of the unit before and during removal.

Surface Water: There is low potential for release to surface water based on the location of this unit underground and from the distance to the closest surface water.

Air: There is low potential for release to air based on the location of the unit underground.

Subsurface Gas: The potential for generation of subsurface gas is dependent on the integrity of the unit before removal.

SUGGESTED FURTHER ACTIONS: It is suggested that soil samples be collected at the excavation where the tank was placed. A minimum of three soil samples should be taken. The sample should be targetted for any discolored areas of the soil and should be analyzed for the Skinner List Constituents.

H. Area Name: Building 188 Underground Storage Tank

CONCLUSIONS: Soil: The potential for release to the soil is dependent on the integrity of the unit before removal.

Groundwater: The potential for release to groundwater is dependent on the integrity of the unit before removal.

Surface Water: There is low potential for release to surface water based on the location of this unit underground and from the distance to the closest surface water.

Air: There is low potential for release to air based on the location of the unit underground.

Subsurface Gas: The potential for generation of subsurface gas is dependent on the integrity of the unit before removal.

SUGGESTED FURTHER ACTIONS: It is suggested that soil samples be collected at the excavation where the tank was placed. A minimum of three soil samples should be taken. The sample should be targetted for any discolored areas of the soil and should be analyzed for the Skinner List Constituents.

I. Area Name: Power Plant Spill

CONCLUSIONS: Soil: The potential for release to the soil is low. The release occurred on pavement and runoff lead to the Storm Sewer System (SWMU No. 23).

Groundwater: The potential for release to groundwater is low. The release occurred on pavement and runoff lead to the Storm Sewer System (SWMU No. 23).

Surface Water: The potential for release to surface water is high based on the evidence that it the waste was released through SWMU 23 into Stoney Creek.

Air: The potential for release to air was high at the time the spill occurred.

Subsurface Gas: The potential for the generation of subsurface gas is low for this unit. The release would not tend to generate subsurface gas since it discharged to surface water.

SUGGESTED FURTHER ACTIONS: A minimum of three sediment samples should be taken at the locations of each of the two suspected outfalls where discharge from the release may have occurred. The sediment samples should be analyzed for the Skinner List Constituents.

J. Area Name: Building 256 Pesticide Spill

CONCLUSIONS: Soil: The potential for release to soil is low. The spill occurred on pavement and confirmatory samples showed no signs of contamination.

Groundwater: The potential for release to groundwater is low. The spill occurred on pavement and confirmatory sampling showed no signs of contamination.

Surface Water: The potential for release to surface water is low based on the location of the unit from the nearest surface water.

Air: The potential for release to the air was moderate at the time of release.

Subsurface Gas: The potential for the generation of subsurface gas is low based on the location of the spill on pavement.

SUGGESTED FURTHER ACTIONS: No further action is suggested for this unit at this time.

K. Area Name: NMRI Radioactively Contaminated Building

CONCLUSIONS: Soil: There is a moderate potential for a release to the soil. The building is partially located underground.

Groundwater: There is a moderate potential for release to the groundwater. The building is partially located underground.

Surface Water: There is a moderate potential for release to the surface water. One of the tributaries to Stoney Creek runs about 20 feet from the contaminated building.

Air: There is a moderate potential for release to the air because of the nature of the contaminant.

Subsurface Gas: There is a low potential for generation of subsurface gas because of the nature of the contaminants and based on the aerobic conditions of the area.

SUGGESTED FURTHER ACTIONS: The facility should demonstrate that mixed wastes were not managed at this unit. If mixed wastes were managed, soil sampling outside the building may be warranted. A minimum of three soil samples should be taken. They should be analyzed for the wastes managed at the building as documented by the facility. If no mixed wastes were involved the unit may be referred to the appropriate regulatory authority.

L. Area Name: Building 50 PCB Spill

CONCLUSIONS: Soil: The potential for release to soil is moderate to high. The unit occurred as the result of a release to soil. However, the facility reports that all contaminated soils were removed.

Groundwater: A release occurred but the contaminated soil was reported removed by the facility.

Surface Water: The potential for release from this unit to surface water is low based on the location of this unit to the nearest surface water body.

Air: The potential for release to the air is low. The waste in question is not volatile.

Subsurface Gas: The potential for generation of subsurface gas is low based on the non-biodegradeable nature of the waste.

SUGGESTED FURTHER ACTIONS: A minimum of three soil samples is suggested for this unit. The soil samples should be taken at the base of the pits where the contaminated soils were removed. The soil samples should be analyzed for PCBs and the Skinner List Constituents.

M. Area Name: AFFRI PCB Spill

CONCLUSIONS: Soil: The potential for release to soil is moderate to high. The unit occurred as result of a release to soil. However, the facility reports that all contaminated soils were removed.

Groundwater: A release occurred but the contaminated soil was reported removed by the facility.

Surface Water: The potential for release from this unit to surface water is low based on the location of this unit to the nearest surface water body.

Air: The potential for release to the air is low. The waste in question is not volatile.

Subsurface Gas: The potential for generation of subsurface gas is low based on the non-biodegradeable nature of the waste.

SUGGESTED FURTHER ACTIONS: A minimum of three soil samples is suggested for this unit. The soil samples should be taken at the base of the pits where the contaminated soils were removed. The soil samples should be analyzed for PCBs and the Skinner List Constituents.

N. Unit Name: USUHS Hydraulic Fluid Spill

CONCLUSIONS: Soil: This unit is the result of a release to the soil.

Groundwater: The potential for a release to the groundwater is moderate. The amount of waste released was small.

Surface Water: The potential for release to surface water is high. Some fraction of the spill discharged to the Stormwater Sewer System (SWMU 23) and then to Stoney Creek.

Air: The potential for release into the air was moderate at the time of the release. The potential for release into the air is now low.

Subsurface Gas: The potential for the generation of subsurface gas is low for this unit. The soil in the area is aerobic.

SUGGESTED FURTHER ACTIONS:

Since the release to the soil has been documented, a RCRA Facility Investigation is suggested to determine the nature and extent of the contamination. The RFI should address not only the area where the spill occurred, but also the areas of Stoney Creek where the waste discharged. Sufficient monitoring wells to characterize the hydrogeology of the area are suggested at the point where the spill occurred.